

PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Yoga practice in the UK: a cross-sectional survey of motivation, health benefits and behaviours
AUTHORS	Cartwright, Tina; Mason, Heather; Porter, Alan; Pilkington, Karen

VERSION 1 – REVIEW

REVIEWER	Ineke Vergeer University of Southern Queensland
REVIEW RETURNED	18-Jun-2019

GENERAL COMMENTS	<p>This is a very interesting and useful study, investigating a number of practice-related variables and their relationship to health characteristics and perceived health outcomes in a large sample of yoga practitioners in the UK. Yoga has been shown to have many potential health benefits and has been growing in popularity but we still have limited knowledge about practitioner/practice characteristics and their relationship to (perceived) health, and this paper addresses this nicely. As many yoga studies have been conducted in the USA, it is also good to see data from a different country.</p> <p>Non-representative sampling, which is hard to avoid in studies like this, and a substantial proportion of yoga teachers among the respondents are limitations, but these are addressed appropriately in the discussion.</p> <p>The paper is well-written, although reporting of method details is a bit minimal in places.</p> <p>Some specific comments are listed below by page and line number.</p> <p>p.5, lines 21-26: The argument here can perhaps be improved. The question used in the Ding and Stamatakis study is a common surveillance question, which in itself is not an issue, I think. More relevant may be that the data are by now relatively old (collected in 1997-1999, 2003-2004, and 2006/2008), and that they showed an increase over time. Given the visible presence of yoga in today's society, it may be expected that this increase has continued, though no more recent data appear to be available.</p> <p>p.5, line 49: I wonder if it would be clearer to list "the relationship between yoga practice characteristics and wellbeing" as a separate aim?</p> <p>p.6, lines 4-7: Could you say a bit more about the number of UK-based yoga organisations involved and about how the 79 yoga studios were selected?</p> <p>p.6, line 32: Could you add the number for each of the types of individuals consulted?</p> <p>p.6, line 57: Please explain what "ONS" stands for.</p>
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	<p>p.7, first paragraph (lines 6-22): Could you add some details on the format of these questions, e.g., were they closed (categorical or scale) or open-ended?</p> <p>p.12, first paragraph: Could you provide the means associated with the t-test results, so the reader knows what the means were for men versus women (since these are not reported in any table)?</p> <p>p.12, first and second paragraph: Did you check any gender differences in motivation?</p> <p>p.12, lines 46-50: This is a bit of a convoluted sentence, and I would suggest to break it up into separate sentences. I would take the argument in brackets and explain it as a separate argument (i.e., were hours in class and years of practice not associated or less strongly associated? The supplementary table suggests the latter but it would be useful to state it here in the text). You may also want to add “at home” to “hours per week”, to emphasise that this was not in class.</p> <p>p.13, lines 3-5: Could you be a bit clearer about the difference between conditions reported as experienced (presumably in the past) and those reported currently? Perhaps add “the number of” before “those” and “than the number of people who reported experiencing them at some point” after “lower”.</p> <p>P.14, line 19: I would suggest to use the expression “Relationship to” rather than “Impact on”. Impact implies a causal relationship, which is not what your data represent.</p> <p>p.18, lines 10-18: Please state more explicitly which data were used as norms for comparison. The references you cite refer to the ONS reports, but you do not explain in the text what they are.</p> <p>p.18, line 20: Would “Suggested explanations” be a better expression here than “Alternate explanations”? It made me wonder ‘alternate to what’?</p> <p>p. 19, lines 16-20: Perhaps consider adding that this suggests that people with these conditions (cardiovascular disease and diabetes) do not appear to find their way to yoga, or may not perceive yoga to be relevant for them (or perhaps these diseases are less common in the more highly educated women who made up the majority of your sample?).</p> <p>Minor edits:</p> <p>p.4, lines 13-15: The sentence starting with “Although a variety styles” appears incomplete.</p> <p>p.4, lines 45-46: add “of” before “higher”</p> <p>p.5, lines 47-48: add a semi-colon before “4”.</p> <p>p.18, line 7: suggest to move “current” to before “anxiety”</p>
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REVIEWER	Lisa A. Uebelacker Brown University, USA
REVIEW RETURNED	15-Jul-2019

GENERAL COMMENTS	<p>This paper describes results from a survey of 2,434 yoga practitioners in the UK. Efforts to documents yoga-related injuries as well as perceived benefits of yoga are important.</p> <p>My most significant comment is that authors should be able to use statistical tests to compare their sample proportion to the population proportion for variables such as proportion of smokers, vegetarians, obese, etc. Similarly, they should be able to use 1-sample t-tests to compare sample means to population means.</p> <p>They might include population norms in Table 2, along with the citation for where they found that norm and the requisite statistical test for differences.</p>
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	<p>Another important comment concerns organization of the manuscript. There are a lot of findings and it can be confusing to follow. I suggest dropping the comparison between teachers and non-teachers, and the comparison between genders, as these comparisons do not add a lot of useful information to the manuscript. I'd focus on presenting descriptive statistics first, including comparison to population-level values. Figure 1 might be better as a table, as all of the other data are presented in a table. Once all of the descriptive statistics are presented (including injury statistics), authors might then move on to look at a) correlations between key variables (.e., yoga practice variables and health outcomes); and b) regressions predicting key health outcomes. There is no information on institutional oversight for research or the consent process.</p> <p>Many of my remaining comments are minor and easily addressable.</p> <ol style="list-style-type: none"> 1. Please edit carefully for grammar and correct punctuation. 2. In the abstract, it is important to include key outcomes even if they might present yoga in a less favorable life, such as information on injuries due to yoga. 3. In Introduction page 4, line 10, please provide the year that the rate of practice of yoga in the U.S. was 13.2% 4. Page 4, line 15, I might specify that asana, pranayama, meditation, and relaxation are the main components of MODERN yoga practice IN THE WEST. 5. Page 4, line 47: please provide a citation for the statement that yoga practitioners' health status is higher than population norms. 6. In the Park et al paper (page 5, line 12), does "over time" refer to time practicing yoga for an individual, or for the population in different time periods? 7. On page 8, line 10, happiness and anxiety are mentioned as criterion variables. How were these concepts measured? 8. Table 1: women comprise 88.3% of the sample (not 87.3%). 9. In Table 3, if authors want to compare teacher to non-teachers, they should provide statistical tests that document differences. 10. Page 12, line 46: if these are bivariate correlations, please specify this in order to distinguish it from information presented in Table 5. 11. In Table 4, it is unclear what the denominator is for the % in the final column. Also, it would be useful to present corresponding #s for the 2nd and final column – e.g., include a total number with history of musculoskeletal pain. 12. Table 5: please provide a list of all variables entered as predictors in regression equations. 13. Page 18, line 7: be careful to state that respondents believed that yoga was helpful for anxiety and depression, rather than that symptoms were lower now than at a previous point prior to the start of yoga practice. 14. Why might anxiety in this sample be higher than population norms while stress is lower? 15. The fact that yoga-practice variables account for limited variance in health measures may be due to restricted range in yoga-practice variables (i.e., no 0s).
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REVIEWER	Shirley Telles Atanjali Research Foundation, Yoya Research Department
REVIEW RETURNED	20-Jul-2019

GENERAL COMMENTS	General:
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	<p>This cross-sectional online survey conducted on 2234 yoga practitioners in the U.K. gave interesting insights about the demographics of yoga practitioners sampled, the factors which act as motivators to practice yoga, their self-reported injuries and the way in which the frequency of yoga practice can influence the outcome of yoga practice.</p> <p>The survey covers points of interest to those interested in the use of mind-body interventions for health and well-being.</p> <p>Main concerns:</p> <ol style="list-style-type: none"> 1. The authors have shown that yoga practitioners were more often female, middle-aged, educated till graduation and with a high socio-economic level. In order to get a more clear idea about the characteristics of yoga practitioners the authors should check other factors such as (i) ethnicity, (ii) occupation (iii) marital status, and possibly (iv) the location within the U.K. (in some countries this can give an indication about the overall standard of living; if this is relevant to different locations within the U.K. the authors should look into it). The numbers of persons within each category (for e.g., for gender it would be male and female) should be converted to percentages and compared with Chi square tests. Also the authors need to provide the way in which sub-categories were formed for age (what were the age ranges?) The Chi square results for age, gender, years of education, ethnicity, occupation and (possibly) location within the U.K. should be provided. 2. In surveys on large numbers of people it is understandable that the sample was selected based on convenience. However, since the motivating factors for participants to practice yoga were noted, it is necessary to know whether all the yoga teachers and practitioners came from yoga centers which followed the same teachings. This is relevant as most yoga organizations and centers do impart some theoretical information along with practical training. If the yoga centers all emphasized the importance of an improvement in physical health related to yoga practice (for example), this could have influenced the way the respondents mentioned the factors which particularly motivated them to practice yoga. 3. The authors mention survey conducted in the U.S. and in Australia. As in the present survey conducted in the U.K., the earlier surveys also showed that practitioners were more likely to be white, female, middle aged and tertiary educated. <p>In 2018 a survey was carried out in India on 14,250 respondents (5157 completed the survey) who were participants in a public event preceding International Yoga day (https://www.frontiersin.org/articles/10.3389/fpubh.2017.00184/full).</p> <p>The survey carried out in India showed that yoga practitioners were more likely to be male, between 21 and 44 years of age, high school educated, and a student. Also, while different age groups mentioned physical fitness as their primary reason to practice yoga, their second reason appeared to be dependent on their age (for e.g., children (10-12 years chose 'practicing yoga as a hobby' while respondents aged between 21 and 60 years and above selected disease management as their second most common reason to practice yoga).</p> <p>The authors need to discuss why the demographics may differ between the U.S., Australia and the U.K. on one hand and India, on the other. The socio-cultural differences are of interest in general and because yoga originated in India.</p> <p>Were the trends the same for Indians who were born in the U.K.? Is yoga perceived as a feminine pursuit in the U.S., Australia and the U.K. but not in India? Would this influence attempting to add-on</p>
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	<p>yoga as a way of improving health, preventing and managing disease?</p> <p>4. Line 31 -----“Forty percent of the sample were yoga teachers.” In general, yoga teachers or therapists are persons with better physical and mental health. as being physically and mentally fit is part of their work i.e., teaching yoga. Therefore, it would be of interest to analyze the responses of the yoga teachers and therapists separately from the yoga practitioners who opted yoga for different reasons. Also, the responses of yoga practitioners only should be compared with the national norms as lifestyle characteristics of yoga teacher would be different from the yoga practitioners and general population and can influence the results of the survey.</p> <p>Other concerns:</p> <ol style="list-style-type: none"> 1. The BMI was 23 (normal) with only 5.1% with a BMI suggestive of obesity, compared to 26.0% in national figures (U.K.). How accurate could people's reporting be expected to be? Please note: https://www.ncbi.nlm.nih.gov/pubmed/23170838; https://academic.oup.com/eurpub/article/27/5/898/3868543 Was there any way this was checked or ensured? The finding is important and worth verifying. 2. The diseases should be categorized according to ICD 10. 3. Line 38 ...'A large majority agreed strongly that yoga had improved their physical health (88%) ...' How was this percentage derived? What is it a percentage of? Was this a percentage of the whole number? If subsequent Chi square tests compared different factors (e.g., gender, age, ethnicity and others) the percentages would have to be calculated differently. For example it would be interesting to know the percentage of males (out of the total number of males) compared to the percentage of females (out of the total number of females) who chose different motivators as their reason to practice yoga, and if this was significant statistically. The same holds good for age, ethnicity, marital status, occupation, education...and possibly location in the U.K. Statistics are necessary to substantiate the results. 4. One of the inclusion criteria was 'Practiced yoga within the past 12 months.' How frequent was the practice (in minutes/week)? Was this a necessary question for inclusion as well? 5. How was perceived helplessness assessed? 6. From Table 5 it would appear that age acts a significant predictor for perceived stress, mental well being, life satisfaction and 'life worthwhile'. Life satisfaction was also significantly predicted by hours in the (yoga class). For 'life worthwhile' significant predictors were hours at home (what did they do at home?) and in the yoga class. Please comment on these findings. Too often the emphasis is on yoga for stress relief. Not enough is written about yoga and improving wellbeing and happiness overall. 7. Line 34 '.....yet almost half our participants stated that their focus had changed, towards a more holistic psycho-spiritual approach.' In a survey conducted in India (https://www.frontiersin.org/articles/10.3389/fpubh.2017.00184/full), all respondents from 10 to 91 years of age mentioned physical wellbeing as their first reason to practice yoga. Those over the age of 60 years reported that the spiritual aspect of yoga was an important secondary consideration. Was the change observed in the U.K. survey seen over a period of time? What was the reason for the change in perspective? 8. Were participants asked to give their signed consent?
REVIEWER	Neha Gothe

	University of Illinois at Urbana Champaign
REVIEW RETURNED	01-Aug-2019

GENERAL COMMENTS	<p>BMJ Open – 2019-031848</p> <p>Major Concerns:</p> <p>The authors use a number of terminologies across the abstract and manuscript that appear to overlap. Perhaps reconsider or clearly detail “health conditions” “health outcomes” and “health behavior”.</p> <p>For the abstract results, include statistics or percentages instead of “almost half” “high numbers of participants” etc.</p> <p>Subheadings</p> <p>Consider reducing the number of sub-headings across the manuscript and perhaps reformatting to the standard sections – Introduction, Methods (with necessary subheading here), Results and Discussion.</p> <p>Introduction:</p> <p>Consider rewording the Introduction paragraph 1, line 4 “...significant levels of practice”</p> <p>Consider consistently using or omitting the use of Sanskrit terminology for yoga terms – asana, pranayama. No terminology is used for meditation/relaxation – dhyana/samadhi?</p> <p>Include the literature review on yoga-cognition in the introduction as effects of yoga have now been extended to brain health and outcomes as well. Works of: Gothe, N. P., & McAuley, E. (2015). Yoga and cognition: a meta-analysis of chronic and acute effects. <i>Psychosomatic medicine</i>, 77(7), 784-797.</p> <p>Introduction paragraph 4, it would be helpful to include the survey question used in the Health Survey for England that examined prevalence of yoga practice. It appears that it was a single item and may highlight the need to conduct comprehensive cross-sectional surveys like the one conducted by the authors.</p> <p>“Patient and Public Involvement” paragraph – It would be helpful if the authors reported some basic demographic characteristics such as age, sex, years of practice, style of yoga practice etc. for these 12 yoga practitioners who were consulted.</p> <p>“Survey development” paragraph – for socio demographic variables, consider using “marital status” instead of “relationship”</p> <p>“Survey development” paragraph – for health, lifestyle and wellbeing variables – was the height and weight “self -reported” – please indicate</p>
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	<p>“Survey development” paragraph – for health, lifestyle and wellbeing variables – spell the acronym “ONS” towards the end of the paragraph</p> <p>Include a copy of the surveys developed by the authors that are not standardized (e.g. perceived stress scale). These could be included as supplementary materials for the submission</p> <p>“Survey development” paragraph – for yoga-related injuries – what was the rationale or reason for not asking the history of the injuries sustained as a function of yoga practice? This would be critical information from a safety of practice viewpoint</p> <p>There is not mention or detail about Target sample size or power analysis for the study. A brief description could be included in the revision</p> <p>Results</p> <p>Socio-demographic characteristics – line 3, it is unclear what “6.62 subjective social status means or how it should be interpreted. It maybe helpful if the authors add a copy of the survey as supplemental materials for context.</p> <p>Just before Table 2, authors report that 93.5% participants engaged in at least one day of exercise per week on their survey. It would be helpful to juxtapose this statistic with the overage of the UK population/Health surveys.</p> <p>For Table 5, consider including only the standardized beta, and SE of the standardized beta for easy interpretation</p> <p>When reporting the yoga related injuries, what was the most common style of yoga resulting in the injuries? Were specific parts of the body highlighted in the responses? Both these will be useful results to include in the manuscript. Can this data be examined in the context of the respondent’s reported style of practice? This is critical and meaningful information for yoga researchers and practitioners alike!</p> <p>Discussion:</p> <p>The authors could elaborate on the anxiety related findings from the surveys. For example, “health and lifestyle paragraph in the discussion, lines 3-5.</p> <p>Rephrase “Motivations, health impact and yoga characteristics” paragraph 2, lines 3-4 “...having a committed practice that impacts on health”</p> <p>Include and expand on the yoga-related injuries discussion based on body parts as well as styles of yoga that were reported in the context of injuries.</p>
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	<p>Limitations paragraph, include “cross-sectional” in the first statement – “first large scale cross-sectional study...”</p> <p>The discussion could include some future directions and next steps to further this area of study.</p> <p>Minor Concerns:</p> <p>Grammar and syntax – review the manuscript for grammar and syntax thoroughly and repetition of words within statements, some examples are listed below, but there are more corrections to be made across the manuscript. Remove extra line breaks and spaces in text and tables.</p> <p>Abstract conclusion first statement “UK survey.....with surveys”</p> <p>Introduction, “motivations and health benefits” paragraph line 3, “white, educated and OF higher SES”, need an “of”</p> <p>Introduction, paragraph 4 “It therefore surprising...” grammar correction needed</p> <p>Consistently format section headers – capitalize all first letters for the phrases or only the first letter of the first word.</p> <p>Results - “Yoga practice characteristics” – capitalize the styles of yoga “Hatha” “Iyengar” etc..</p> <p>Include footnotes for tables explaining the acronyms used, including in text. Replace acronyms with the full phrase if it is not consistently and repeatedly used in the manuscript (e.g. COPD)</p>
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VERSION 1 – AUTHOR RESPONSE

Response to Reviewers

Reviewer(s)' Comments to Author:

Reviewer: 1

Reviewer Name: Ineke Vergeer

Institution and Country: University of Southern Queensland, Australia

Please state any competing interests or state ‘None declared’: none declared

Please leave your comments for the authors below

This is a very interesting and useful study, investigating a number of practice-related variables and their relationship to health characteristics and perceived health outcomes in a large sample of yoga practitioners in the UK. Yoga has been shown to have many potential health benefits and has been growing in popularity but we still have limited knowledge about practitioner/practice characteristics and their relationship to (perceived) health, and this paper addresses this nicely. As many yoga studies have been conducted in the USA, it is also good to see data from a different country.

Non-representative sampling, which is hard to avoid in studies like this, and a substantial proportion of

yoga teachers among the respondents are limitations, but these are addressed appropriately in the discussion.

The paper is well-written, although reporting of method details is a bit minimal in places. Some specific comments are listed below by page and line number.

Thank you, we have now provided further detail in the methods.

p.5, lines 21-26: The argument here can perhaps be improved. The question used in the Ding and Stamatakis study is a common surveillance question, which in itself is not an issue, I think. More relevant may be that the data are by now relatively old (collected in 1997-1999, 2003-2004, and 2006/2008), and that they showed an increase over time. Given the visible presence of yoga in today's society, it may be expected that this increase has continued, though no more recent data appear to be available.

Thank you for this suggestion. We have now included the question asked and noted that the data is old. Our survey does not attempt to assess national prevalence of yoga and the point we were making is that there was little exploration of yoga practice and the decision-making and perceptions around yoga practice which we have attempted to address in our survey.

p.5, line 49: I wonder if it would be clearer to list "the relationship between yoga practice characteristics and wellbeing" as a separate aim?

This has now been listed separately.

p.6, lines 4-7: Could you say a bit more about the number of UK-based yoga organisations involved and about how the 79 yoga studios were selected?

We have provided further detail on the recruitment methods including the numbers and selection.

p.6, line 32: Could you add the number for each of the types of individuals consulted?

We have added further details (as explained above)

p.6, line 57: Please explain what "ONS" stands for.

Now stated in full.

p.7, first paragraph (lines 6-22): Could you add some details on the format of these questions, e.g., were they closed (categorical or scale) or open-ended?

We have provided additional detail to clarify individual question formats on yoga practice; we hope that this is now much clearer.

p.12, first paragraph: Could you provide the means associated with the t-test results, so the reader knows what the means were for men versus women (since these are not reported in any table)?

Thank you for this suggestion. Means and associated p values are now reported for each comparison. We have also incorporated the comparisons into the relevant sections in response to reviewer comments.

p.12, first and second paragraph: Did you check any gender differences in motivation?

While we agree that this may be an interesting comparison, in view of the Reviewer 2's suggestion that the gender data is omitted, we have not added further comparisons or details on this aspect.

p.12, lines 46-50: This is a bit of a convoluted sentence, and I would suggest to break it up into separate sentences. I would take the argument in brackets and explain it as a separate argument (i.e., were hours in class and years of practice not associated or less strongly associated? The supplementary table suggests the latter but it would be useful to state it here in the text). You may also want to add "at home" to "hours per week", to emphasise that this was not in class.

We have now rephrased and simplified this sentence and hope it is now clearer.

p.13, lines 3-5: Could you be a bit clearer about the difference between conditions reported as experienced (presumably in the past) and those reported currently? Perhaps add "the number of" before "those" and "than the number of people who reported experiencing them at some point" after "lower".

We have amended this sentence as suggested.

P.14, line 19: I would suggest to use the expression "Relationship to" rather than "Impact on". Impact implies a causal relationship, which is not what your data represent.

This has now been amended.

p.18, lines 10-18: Please state more explicitly which data were used as norms for comparison. The references you cite refer to the ONS reports, but you do not explain in the text what they are.

As norms are drawn from different sources we have referenced each one individually, we hope this is adequate.

p.18, line 20: Would "Suggested explanations" be a better expression here than "Alternate explanations"? It made me wonder 'alternate to what'?

We have now amended this to "Other possible explanations..."

p. 19, lines 16-20: Perhaps consider adding that this suggests that people with these conditions (cardiovascular disease and diabetes) do not appear to find their way to yoga, or may not perceive yoga to be relevant for them (or perhaps these diseases are less common in the more highly educated women who made up the majority of your sample?).

We have added a sentence with possible explanations for these findings as suggested and that this is an aspect that would benefit further investigation.

Minor edits:

p.4, lines 13-15: The sentence starting with "Although a variety styles" appears incomplete.

p.4, lines 45-46: add "of" before "higher"

p.5, lines 47-48: add a semi-colon before "4".

The above edits have been made

p.18, line 7: suggest to move "current" to before "anxiety"

This sentence has been amended.

Reviewer: 2

Reviewer Name: Lisa A. Uebelacker

Institution and Country: Brown University, USA

Please state any competing interests or state 'None declared': None declared

Please leave your comments for the authors below

This paper describes results from a survey of 2,434 yoga practitioners in the UK. Efforts to document yoga-related injuries as well as perceived benefits of yoga are important.

My most significant comment is that authors should be able to use statistical tests to compare their sample proportion to the population proportion for variables such as proportion of smokers, vegetarians, obese, etc. Similarly, they should be able to use 1-sample t-tests to compare sample means to population means. They might include population norms in Table 2, along with the citation for where they found that norm and the requisite statistical test for differences.

Thank you for this suggestion. We have now conducted the suggested analysis and reported in 'data analysis' section and Table 2.

Another important comment concerns organization of the manuscript. There are a lot of findings and it can be confusing to follow. I suggest dropping the comparison between teachers and non-teachers, and the comparison between genders, as these comparisons do not add a lot of useful information to the manuscript.

Thank you for this suggestion. Based on comments of other reviewers, we have retained these comparisons. However, to address the comments on amount of useful information added and the possible confusion, we have integrated these findings and comparisons into one table and into the relevant section of the text.

I'd focus on presenting descriptive statistics first, including comparison to population-level values.

Figure 1 might be better as a table, as all of the other data are presented in a table. Once all of the descriptive statistics are presented (including injury statistics), authors might then move on to look at a) correlations between key variables (.e., yoga practice variables and health outcomes); and b) regressions predicting key health outcomes.

We have aimed to reorganise the results so that core descriptive statistics are presented first followed by correlations then regressions. There is some unavoidable overlap between these as we are only able to present a limited number of tables and wish to align with the aims of the study.

There is no information on institutional oversight for research or the consent process.

This was presented under the section Ethics Approval at the end of the document (as per journal requirements) but we have also added a sentence on consent under Design and Recruitment.

Many of my remaining comments are minor and easily addressable.

1. Please edit carefully for grammar and correct punctuation.

The paper has undergone careful proof-reading and corrections.

2. In the abstract, it is important to include key outcomes even if they might present yoga in a less favorable light, such as information on injuries due to yoga.

We have now included a sentence on the injuries linked to yoga.

3. In Introduction page 4, line 10, please provide the year that the rate of practice of yoga in the U.S. was 13.2%

This has now been added.

4. Page 4, line 15, I might specify that asana, pranayama, meditation, and relaxation are the main components of MODERN yoga practice IN THE WEST.

An interesting point, however, we disagree - asana, pranayama and meditation are also parts of traditional Indian yoga. Although reference to asana in the Yoga Sutras relates to a seated position that is steady, asana as a series of postures is discussed in other later Indian texts such as the Yoga Pradipika.

5. Page 4, line 47: please provide a citation for the statement that yoga practitioners' health status is higher than population norms.

We have added references to support this statement.

6. In the Park et al paper (page 5, line 12), does "over time" refer to time practicing yoga for an individual, or for the population in different time periods?

This refers to the individual and we have now clarified this in the text.

7. On page 8, line 10, happiness and anxiety are mentioned as criterion variables. How were these concepts measured?

This has now been clarified in the methods section on Health, lifestyle and wellbeing variables.

8. Table 1: women comprise 88.3% of the sample (not 87.3%).

The percentage was actually 87.3% of total sample (valid percent) – there were some non-responders (for individual questions) - and a sentence added to explain this point as this applies to all frequencies. In addition, total response rates have been added to the Table.

9. In Table 3, if authors want to compare teacher to non-teachers, they should provide statistical tests that document differences.

We have reported briefly, being mindful of your comment regarding the amount of results reported and importance of clarity of message (comparing teachers and non-teachers was not a key focus of the paper). Table 3 has been integrated into Table 2 in response to other reviewers' comments.

10. Page 12, line 46: if these are bivariate correlations, please specify this in order to distinguish it from information presented in Table 5.

This is stated in the data analysis section.

11. In Table 4, it is unclear what the denominator is for the % in the final column. Also, it would be useful to present corresponding #s for the 2nd and final column – e.g., include a total number with history of musculoskeletal pain.

As Table 4 has caused confusion, we have now focused only on perceived helpfulness in this Table. A summary of the rates of currently reported health problems is now presented in the text.

12. Table 5: please provide a list of all variables entered as predictors in regression equations.

This is now listed below the table.

13. Page 18, line 7: be careful to state that respondents believed that yoga was helpful for anxiety and depression, rather than that symptoms were lower now than at a previous point prior to the start of yoga practice.

This sentence has now been rephrased so that we hope that the point we were making is clearer.

14. Why might anxiety in this sample be higher than population norms while stress is lower?

Suggestions on possible reasons have been added to the Discussion.

15. The fact that yoga-practice variables account for limited variance in health measures may be due to restricted range in yoga-practice variables (i.e., no 0s).

We agree the general point, but in fact, there were participants with low levels of regular practice or who did not practice either at home or in class.

Reviewer: 3

Reviewer Name: Shirley Telles

Institution and Country: Patanjali Research Foundation, Haridwar. Uttarakhand 249405 India

Please state any competing interests or state 'None declared': None

Please leave your comments for the authors below

General:

This cross-sectional online survey conducted on 2234 yoga practitioners in the U.K. gave interesting

insights about the demographics of yoga practitioners sampled, the factors which act as motivators to practice yoga, their self-reported injuries and the way in which the frequency of yoga practice can influence the outcome of yoga practice.

The survey covers points of interest to those interested in the use of mind-body interventions for health and well-being.

Main concerns:

1. The authors have shown that yoga practitioners were more often female, middle-aged, educated till graduation and with a high socio-economic level. In order to get a more clear idea about the characteristics of yoga practitioners the authors should check other factors such as (i) ethnicity, (ii) occupation (iii) marital status, and possibly (iv) the location within the U.K. (in some countries this can give an indication about the overall standard of living; if this is relevant to different locations within the U.K. the authors should look into it). The numbers of persons within each category (for e.g., for gender it would be male and female) should be converted to percentages and compared with Chi square tests. Also the authors need to provide the way in which sub-categories were formed for age (what were the age ranges?) The Chi square results for age, gender, years of education, ethnicity, occupation and (possibly) location within the U.K. should be provided.

We are unclear of what is required here, as we do report the factors listed. Age was a continuous rather than categorical variable. If the suggestion is to carry out further analysis to check the effect of each demographic on motivation etc., while we agree this may be interesting, we feel that this is outside the scope of the current paper given that we are already presenting a large amount of data. Additionally, other reviewers have suggested reducing the number of comparisons presented.

2. In surveys on large numbers of people it is understandable that the sample was selected based on convenience. However, since the motivating factors for participants to practice yoga were noted, it is necessary to know whether all the yoga teachers and practitioners came from yoga centers which followed the same teachings. This is relevant as most yoga organizations and centers do impart some theoretical information along with practical training. If the yoga centers all emphasized the importance of an improvement in physical health related to yoga practice (for example), this could have influenced the way the respondents mentioned the factors which particularly motivated them to practice yoga.

An interesting point, but as summarised in the results, our respondents practised a wide range of yoga styles in a variety of locations (we did not ask about membership of specific organisations or centres) – it would therefore not be possible to explore this question in our sample.

3. The authors mention survey conducted in the U.S. and in Australia. As in the present survey conducted in the U.K., the earlier surveys also showed that practitioners were more likely to be white, female, middle aged and tertiary educated.

In 2018 a survey was carried out in India on 14,250 respondents (5157 completed the survey) who were participants in a public event preceding International Yoga day (<https://www.frontiersin.org/articles/10.3389/fpubh.2017.00184/full>). The survey carried out in India showed that yoga practitioners were more likely to be male, between 21 and 44 years of age, high school educated, and a student. Also, while different age groups mentioned physical fitness as their primary reason to practice yoga, their second reason appeared to be dependent on their age (for e.g., children (10-12 years chose 'practicing yoga as a hobby' while respondents aged between 21 and 60 years and above selected disease management as their second most common reason to practice yoga).

The authors need to discuss why the demographics may differ between the U.S., Australia and the

U.K. on one hand and India, on the other. The socio-cultural differences are of interest in general and because yoga originated in India.

Thank you for the suggestion, we have now included reference to the survey from India as suggested.

Were the trends the same for Indians who were born in the U.K.?

For the reasons mentioned above, we feel that this is beyond the scope of the current paper. We also do not distinguish between ethnicity and birthplace in the data.

Is yoga perceived as a feminine pursuit in the U.S., Australia and the U.K. but not in India? Would this influence attempting to add-on yoga as a way of improving health, preventing and managing disease?

We have added a sentence to highlight the implications of gender differences in uptake of yoga in the discussion.

4. Line 31 -----“Forty percent of the sample were yoga teachers.” In general, yoga teachers or therapists are persons with better physical and mental health. as being physically and mentally fit is part of their work i.e., teaching yoga. Therefore, it would be of interest to analyze the responses of the yoga teachers and therapists separately from the yoga practitioners who opted yoga for different reasons. Also, the responses of yoga practitioners only should be compared with the national norms as lifestyle characteristics of yoga teacher would be different from the yoga practitioners and general population and can influence the results of the survey.

We accept that, as we have a sample which includes a high proportion of yoga teachers, it is important to see whether there are significant differences between this group and the non-teacher yoga practitioners. These comparisons have been carried out and integrated into Table 2.

Other concerns:

1. The BMI was 23 (normal) with only 5.1% with a BMI suggestive of obesity, compared to 26.0% in national figures (U.K.). How accurate could people's reporting be expected to be?

Please note: <https://www.ncbi.nlm.nih.gov/pubmed/23170838>;

<https://academic.oup.com/eurpub/article/27/5/898/3868543>

Was there any way this was checked or ensured? The finding is important and worth verifying.

The figures are based on self-report as this was an online survey and it is not possible to conduct physical measures. We accept that this may mean that figures are not accurate and make further reference to this in the text and limitations.

2. The diseases should be categorized according to ICD 10.

We selected health conditions based on how these are usually described by lay persons. As these are not necessarily diagnosed but may be self-diagnosed, we have not categorised using set criteria such as ICD-10 (or DSM-5).

3. Line 38 ...'A large majority agreed strongly that yoga had improved their physical health (88%) ...' How was this percentage derived? What is it a percentage of? Was this a percentage of the

whole number? If subsequent Chi square tests compared different factors (e.g., gender, age, ethnicity and others) the percentages would have to be calculated differently. For example it would be interesting to know the percentage of males (out of the total number of males) compared to the percentage of females (out of the total number of females) who chose different motivators as their reason to practice yoga, and if this was significant statistically. The same holds good for age, ethnicity, marital status, occupation, education...and possibly location in the U.K. Statistics are necessary to substantiate the results.

The percentage was based on a question asking people to state perceived health impact, in this case on physical health. The question utilised a 5-point Likert scale (strongly disagree-strongly agree) and the percentage represents those who responded with agree/strongly agree for this question.

4. One of the inclusion criteria was 'Practiced yoga within the past 12 months.' How frequent was the practice (in minutes/week)? Was this a necessary question for inclusion as well?

We did not have frequency of practice as a criterion for inclusion as part of the aim of the study was to find out more about extent (including frequency) of practice and we present this data in the Results.

5. How was perceived helplessness assessed?

If this refers to helpfulness, the possible responses to the questions were as stated in the methods (5-point Likert scale). In the results, findings are reported as very helpful/helpful; neither helpful or unhelpful; unhelpful/very unhelpful).

6. From Table 5 it would appear that age acts a significant predictor for perceived stress, mental well being, life satisfaction and 'life worthwhile'. Life satisfaction was also significantly predicted by hours in the (yoga class). For 'life worthwhile' significant predictors were hours at home (what did they do at home?) and in the yoga class. Please comment on these findings. Too often the emphasis is on yoga for stress relief. Not enough is written about yoga and improving wellbeing and happiness overall.

We have added further detail regarding these findings. The ONS items (life worthwhile etc) also relate to personal wellbeing.

7. Line 34 '.....yet almost half our participants stated that their focus had changed, towards a more holistic psycho-spiritual approach.' In a survey conducted in India (<https://www.frontiersin.org/articles/10.3389/fpubh.2017.00184/full>), all respondents from 10 to 91 years of age mentioned physical wellbeing as their first reason to practice yoga. Those over the age of 60 years reported that the spiritual aspect of yoga was an important secondary consideration. Was the change observed in the U.K. survey seen over a period of time? What was the reason for the change in perspective?

The change was over a period of time (people were asked for their original motivation and for their current reason for continuing to practice). We did not ask people to explain their change in perspective.

8. Were participants asked to give their signed consent?

Participants gave their consent prior to completion of the survey. We have added a note to this effect under Recruitment (it is also stated in the section Ethics Approval at the end of the manuscript).

Reviewer: 4

Reviewer Name: Neha Gothe

Institution and Country: University of Illinois at Urbana Champaign

Please state any competing interests or state 'None declared': None declared

Major Concerns:

The authors use a number of terminologies across the abstract and manuscript that appear to overlap.

Perhaps reconsider or clearly detail “health conditions” “health outcomes” and “health behavior”.

We accept that we have had to use several terms but have attempted to clarify what is specifically referred to in the text at the relevant points.

For the abstract results, include statistics or percentages instead of “almost half” “high numbers of participants” etc.

These have now been added.

Subheadings

Consider reducing the number of sub-headings across the manuscript and perhaps reformatting to the standard sections – Introduction, Methods (with necessary subheading here), Results and Discussion.

We have reduced the number of subheadings and in response to this and Reviewer 2, we have reorganised the sections and integrated subsections (e.g. Gender differences) where possible.

Introduction:

Consider rewording the Introduction paragraph 1, line 4 “...significant levels of practice”

We are unclear what is required in response to this comment – we used a broad term as prevalence studies are not available in these countries.

Consider consistently using or omitting the use of Sanskrit terminology for yoga terms – asana, pranayama. No terminology is used for meditation/relaxation – dhyana/samadhi?

We have removed the Sanskrit terminology for consistency (except when describing the terms used in the survey).

Include the literature review on yoga-cognition in the introduction as effects of yoga have now been extended to brain health and outcomes as well. Works of: Gothe, N. P., & McAuley, E. (2015). Yoga and cognition: a meta-analysis of chronic and acute effects. *Psychosomatic medicine*, 77(7), 784-797.

Thank you for this suggestion - We have added a sentence on this in the introduction although, of course, it is beyond the scope of our brief review to cover the full range of literature on the effects of yoga.

Introduction paragraph 4, it would be helpful to include the survey question used in the Health Survey for England that examined prevalence of yoga practice. It appears that it was a single item and may highlight the need to conduct comprehensive cross-sectional surveys like the one conducted by the authors.

Further details including the precise question have now been included.

“Patient and Public Involvement” paragraph – It would be helpful if the authors reported some basic demographic characteristics such as age, sex, years of practice, style of yoga practice etc. for these 12 yoga practitioners who were consulted.

This information has now been added in summarised form.

“Survey development” paragraph – for socio demographic variables, consider using “marital status” instead of “relationship”

This has been changed.

“Survey development” paragraph – for health, lifestyle and wellbeing variables – was the height and weight “self -reported” – please indicate

As this was an online survey, all data was self-reported. We have added in a sentence to this effect.

“Survey development” paragraph – for health, lifestyle and wellbeing variables – spell the acronym “ONS” towards the end of the paragraph

This has now been stated in full.

Include a copy of the surveys developed by the authors that are not standardized (e.g. perceived stress scale). These could be included as supplementary materials for the submission

The survey was developed for online use and integrated the standardized scales with questions specific to this survey (e.g. yoga practice questions). At several points, a decision-tree was utilised so

that subsequent questions related to responses (e.g. if a participant selected a particular health condition, the next question would relate specifically to this). Therefore, it would not be possible to include the survey instrument as supplementary materials. We have, however, added further detail relating to the survey in the methods in an effort to enhance clarity.

“Survey development” paragraph – for yoga-related injuries – what was the rationale or reason for not asking the history of the injuries sustained as a function of yoga practice? This would be critical information from a safety of practice viewpoint

We agree that this information would be valuable but were limited in the number of questions to which we could reasonably expect participants to respond. As a result, we had to make some difficult decisions on what could not be addressed but do agree that this is an aspect which would benefit from further investigation and have included this in our recommendations on future research.

There is not mention or detail about Target sample size or power analysis for the study. A brief description could be included in the revision.

This was an exploratory, online survey using a range of recruitment methods. Therefore, we did not set a limit to sample size or conduct power calculations. While a representative, population-based survey would require this in order to generalise, our main aim was to gain a better understanding of practice, motivations etc. and so the limit was based on a set time period for recruitment only.

Results

Socio-demographic characteristics – line 3, it is unclear what “6.62 subjective social status means or how it should be interpreted. It maybe helpful if the authors add a copy of the survey as supplemental materials for context.

The McArthur scale of subjective social status is a standardized scale (<https://macses.ucsf.edu/research/psychosocial/subjective.php>). We have also added further information on this scale in the methods. We have explained why including the survey would not be possible.

Just before Table 2, authors report that 93.5% participants engaged in at least one day of exercise per week on their survey. It would be helpful to juxtapose this statistic with the overage of the UK population/Health surveys.

Unfortunately exercise is measured in a variety of different ways across surveys (we used a simplified single item) so a direct comparison is not possible.

For Table 5, consider including only the standardized beta, and SE of the standardized beta for easy Interpretation

The unstandardized betas and SE of the unstandardized betas have been retained in Table 5 in order to give the reader a full understanding of the model.

When reporting the yoga related injuries, what was the most common style of yoga resulting in the

Injuries Were specific parts of the body highlighted in the responses? Both these will be useful results to include in the manuscript.

Can this data be examined in the context of the respondent's reported style of practice? This is critical and meaningful information for yoga researchers and practitioners alike!

We have included further details on this aspect (parts of the body were listed in a fixed response question as indicated in methods), but reporting injury rates for different styles of yoga may be misleading as, due to the recruitment methods, some styles were represented in greater numbers

Discussion:

The authors could elaborate on the anxiety related findings from the surveys. For example, "health and lifestyle paragraph in the discussion, lines 3-5.

Further brief discussion of this has been added.

Rephrase "Motivations, health impact and yoga characteristics" paragraph 2, lines 3-4 "...having a committed practice that impacts on health"

This has been rephrased and we hope it is now clearer.

Include and expand on the yoga-related injuries discussion based on body parts as well as styles of yoga that were reported in the context of injuries.

Whilst we have not discussed styles due to the reasons outlined above, we have provided further elaboration in the discussion and in future directions.

Limitations paragraph, include "cross-sectional" in the first statement – "first large scale cross-sectional study..."

We have now added this (and to the title).

The discussion could include some future directions and next steps to further this area of study.

We have now added this within the discussion and the conclusion.

Minor Concerns:

Grammar and syntax – review the manuscript for grammar and syntax thoroughly and repetition of words within statements, some examples are listed below, but there are more correctios to be made across the manuscript. Remove extra line breaks and spaces in text and tables.

The paper has now been proof read carefully and the specific points below corrected.

Abstract conclusion first statement “UK survey.....with surveys”

Introduction, “motivations and health benefits” paragraph line 3, “white, educated and OF higher SES”, need an “of”

Introduction, paragraph 4 “It therefore surprising...” grammar correction needed

Consistently format section headers – capitalize all first letters for the phrases or only the first letter of the first word.

Results - “Yoga practice characteristics” – capitalize the styles of yoga “Hatha” “Iyengar” etc..

Include footnotes for tables explaining the acronyms used, including in text. Replace acronyms with the full phrase if it is not consistently and repeatedly used in the manuscript (e.g. COPD

VERSION 2 – REVIEW

REVIEWER	Ineke Vergeer University of Southern Queensland, Australia
REVIEW RETURNED	27-Sep-2019

GENERAL COMMENTS	I am happy with the changes you have made in response to my comments. Thank you for this interesting and useful study.
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REVIEWER	Lisa Uebelacker Butler Hospital and Brown University, USA
REVIEW RETURNED	01-Oct-2019

GENERAL COMMENTS	<p>This is a resubmission. Authors have been responsive to previous reviewers' comments. I find it much easier to follow the flow of the reorganized manuscript. This survey provides important information about why people practice yoga, yoga injuries, and how yoga practice variables may relate to health variables. I do have some minor comments, mostly reflecting need for clarification or additional information.</p> <p>All page numbers below refer to the manuscript with changes tracked.</p> <p>On page 8 In the Methods section, when discussing Perceived Health Impact, authors should provide a list of the 7 domains of health assessed. I also recommend against the use of the word “generic” – I don't think the meaning of the word generic is right in this context.</p>
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	<p>Given authors would like to retain comparisons between teachers and non-teachers, it would be useful to provide demographic information for each group separately as part of Table 1.</p> <p>In the results section, please make sure the test-statistic and degrees of freedom are always included in addition to the p-value. It can be included in either the table or the text; does not need to be in both places.</p> <p>On page 15, when authors say that “all yoga practice variables were significantly correlated with perceived health impact,” please provide more information. Was more practice associated with a higher perceived impact on health? Also, authors present one correlation ($r = .411$) -- is that between lifestyle changes and hours at home per week? Or days per week?</p> <p>On page 16 in the text, authors list numbers of participants presenting with certain health condition – are these current health conditions or past health conditions or both? Similarly, does the n in Table 3 refer to people with the condition currently, in the past, or both? If past health conditions were included, was there a response option for “I did not practice yoga at the time I had this condition?”</p> <p>On page 17, when describing regression results, please note the direction of the association in each case.</p> <p>Page 21, line 57 – what do authors mean when they results could “reflect reporting bias.” This is an interesting idea and authors could explain it with a bit more detail.</p> <p>Page 22, line 19 – If authors plan to state that reports of anxiety and depression were fewer compared to prior to engaging in yoga, they need to provide these data in the results. I’m not sure where these data come from – from the survey of 25 health conditions? The Methods state that this survey asked about health conditions that participants experienced since practicing yoga.</p> <p>Page 23 – 2nd paragraph. Authors state that yoga practice variables account for only a small amount of variance in health and wellbeing measures. They then say that a regular yoga practice is important for a health benefit. These two sentences seem to be saying opposite things. Authors may want to better explain why both of these ideas may be true, or modify their statements. Further, if authors would like to bring up the concept of “hedonic treadmill,” they should provide a citation and better explain the concept.</p>
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REVIEWER	Shirley Telles Atanjali Research Foundation, Yoya Research Department
REVIEW RETURNED	10-Oct-2019

GENERAL COMMENTS	<p>Overall</p> <p>The authors have addressed all the comments very well. However I have two questions/clarifications which are mentioned below.</p> <p>There are two clarifications which I believe are necessary:</p> <p>(1) Clarification 1: Table 2 Please convey what the asterisk (*) conveys. That is, does it convey significance about Chi square tests or about 1-sample t-tests? This is not clear from the footnote of Table 2 which reads ‘Significantly different from available norms using Chi-square and 1-sample t-tests: *$p < 0.05$, **$p < 0.005$’. It would be ideal to provide Chi-square values and to use different symbols to indicate significance after (i) Chi-square tests and (ii) t-tests.</p> <p>(2) Clarification 2:</p>
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	<p>The authors should discuss why the demographics may differ between the U.S., Australia and the U.K. on one hand and India, on the other. The socio-cultural differences are of interest in general and because yoga is considered to have originated in India.</p> <p>Is yoga perceived as a feminine pursuit in the U.S., Australia and the U.K. but not in India? Would this influence attempting to add-on yoga as a way of improving health, preventing and managing disease in men?</p>
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REVIEWER	Neha P. Gothe University of Illinois at Urbana Champaign, USA
REVIEW RETURNED	23-Sep-2019

GENERAL COMMENTS	The authors have addressed the concerns satisfactorily. The unaddressed concerns are limited by the research methodology and have been acknowledge
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VERSION 2 – AUTHOR RESPONSE

Response to Reviewers

We are pleased that the reviewers felt that we addressed all their major comments in the resubmission and felt that it is an interesting and important study. We have responded to the remaining suggestions in italics below each point.

Reviewer: 2

Reviewer Name: Lisa Uebelacker

Institution and Country: Butler Hospital and Brown University, USA Please state any competing interests or state 'None declared': None declared

Please leave your comments for the authors below This is a resubmission. Authors have been responsive to previous reviewers' comments. I find it much easier to follow the flow of the reorganized manuscript. This survey provides important information about why people practice yoga, yoga injuries, and how yoga practice variables may relate to health variables. I do have some minor comments, mostly reflecting need for clarification or additional information.

All page numbers below refer to the manuscript with changes tracked.

On page 8 In the Methods section, when discussing Perceived Health Impact, authors should provide a list of the 7 domains of health assessed. I also recommend against the use of the word "generic" – I don't think the meaning of the word generic is right in this context.

Amended to include 7 domains.

Given authors would like to retain comparisons between teachers and non-teachers, it would be useful to provide demographic information for each group separately as part of Table 1.

Included.

In the results section, please make sure the test-statistic and degrees of freedom are always included in addition to the p-value. It can be included in either the table or the text; does not need to be in both places.

Acknowledged, any repetition has been removed. An additional supplementary table has been provided to provide test statistics for table 2 (it would not be possible to include this level of detail in the main table).

On page 15, when authors say that "all yoga practice variables were significantly correlated with perceived health impact," please provide more information. Was more practice associated with a

higher perceived impact on health? Also, authors present one correlation ($r = .411$) -- is that between lifestyle changes and hours at home per week? Or days per week?

Amended for clarification (full details of the analysis are provided in supplementary table 2).

On page 16 in the text, authors list numbers of participants presenting with certain health condition – are these current health conditions or past health conditions or both? Similarly, does the n in Table 3 refer to people with the condition currently, in the past, or both? If past health conditions were included, was there a response option for “I did not practice yoga at the time I had this condition?”
To avoid confusion, we have moved reporting of current health conditions to the section on health characteristics (consistent with reporting in methods). In this section (perceived health impact) we now focus only on perceived helpfulness for health conditions.

On page 17, when describing regression results, please note the direction of the association in each case.

Sentence added.

Page 21, line 57 – what do authors mean when they results could “reflect reporting bias.” This is an interesting idea and authors could explain it with a bit more detail.

In previous amendments, we made further reference to this in the limitations section indicating that teachers may be biased towards more positive evaluations of yoga.

Page 22, line 19 – If authors plan to state that reports of anxiety and depression were fewer compared to prior to engaging in yoga, they need to provide these data in the results. I’m not sure where these data come from – from the survey of 25 health conditions? The Methods state that this survey asked about health conditions that participants experienced since practicing yoga.

The data for currently reported health conditions is already presented in the results (see final paragraph of p13 in original (revised) submission) – this has now been moved to the health characteristics section in response to your previous request for clarification. We have also removed this statement to avoid potential confusion.

Page 23 – 2nd paragraph. Authors state that yoga practice variables account for only a small amount of variance in health and wellbeing measures. They then say that a regular yoga practice is important for a health benefit. These two sentences seem to be saying opposite things. Authors may want to better explain why both of these ideas may be true, or modify their statements.

We have added an additional sentence – we have linked with the idea of the hedonic treadmill in this paragraph to suggest that even small differences can have an important cumulative effect on constructs that are difficult to change in the long-term.

Further, if authors would like to bring up the concept of “hedonic treadmill,” they should provide a citation and better explain the concept.

Additional citation and elaboration provided.

Reviewer: 3

Reviewer Name: Shirley Telles

Institution and Country:

Patanjali Research Foundation, Haridwar, India www.patanjaliresearchfoundation.com

Please state any competing interests or state ‘None declared’: None declared

Please leave your comments for the authors below Overall The authors have addressed all the comments very well. However I have two questions/clarifications which are mentioned below.

There are two clarifications which I believe are necessary:

(1) Clarification 1:

Table 2

Please convey what the asterisk (*) conveys. That is, does it convey significance about Chi square tests or about 1-sample t-tests? This is not clear from the footnote of Table 2 which reads

'Significantly different from available norms using Chi-square and 1-sample t-tests: * $p < 0.05$, ** $p < 0.005$ '. It would be ideal to provide Chi-square values and to use different symbols to indicate significance after (i) Chi-square tests and (ii) t-tests.

As indicated in response to previous reviewer, an additional supplementary table has been provided to provide additional information regarding statistical output for table 2.

(2) Clarification 2:

The authors should discuss why the demographics may differ between the U.S., Australia and the U.K. on one hand and India, on the other. The socio-cultural differences are of interest in general and because yoga is considered to have originated in India.

Is yoga perceived as a feminine pursuit in the U.S., Australia and the U.K. but not in India? Would this influence attempting to add-on yoga as a way of improving health, preventing and managing disease in men?

Reference was made to these points in the original amendments (in both introduction and discussion). A further sentence has added in discussion regarding future directions but we feel further discussion of cultural differences, whilst interesting, is beyond the scope of the current paper and conflicts with journal requirements regarding manuscript word length.

VERSION 3 – REVIEW

REVIEWER	Lisa Uebelacker Brown University and Butler Hospital
REVIEW RETURNED	13-Nov-2019

GENERAL COMMENTS	This is a second revision of a manuscript. Authors have been very responsive to previous comments. As final steps prior to publication, I recommend authors address the two very minor issues below. The numbers of yoga teachers + yoga practitioners in Table 1 do not add up to the numbers in the "all" column. This may be due to the fact that some people did not say if they were teachers or not. If this is the case, all that is required is a footnote to that effect. To make Table 3 very clear, authors might say specify that the 2nd column (n) refers to number of people experiencing the condition.
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REVIEWER	Shirley Telles Patanjali Research Foundation, India
REVIEW RETURNED	25-Nov-2019

GENERAL COMMENTS	The suggestions have been implemented. I recommend the manuscript for publication.
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VERSION 3 – AUTHOR RESPONSE

The 2 minor revisions have been made.